# Delaware: 1945-1998

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Choices for Delaware: Life and the Economy in 2000 and Beyond

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> > by

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# **Population and Households**

There are many factors that influence the economic growth and development in Delaware and elsewhere, but the population base that provides the labor and uses the goods and services is central. In this section of the report, several population-related issues will be addressed. These will include population growth, the components of that growth, the impact and structure of migration, the way the population is organized in households, and finally, aspects of the age structure of the population.

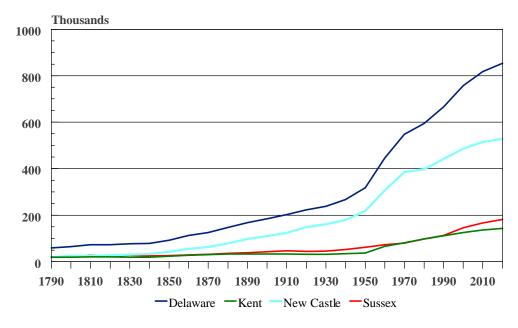


Figure 1.1 Population of Delaware and Counties

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census Decennial Census 1790-1990 Delaware Population Consortium, January 1996

#### **Population Growth**

The pattern of population growth from 1790 to 2020 for the state and each county is displayed in Figure 1.1 above. The graph reflects a pattern seen quite often in nature where a population grows at a stable but increasing rate, followed by a time where rates increase each period, and finally by a time where the rate increases but decreases over time. The State of Delaware and New Castle County have both experienced those three phases of growth.

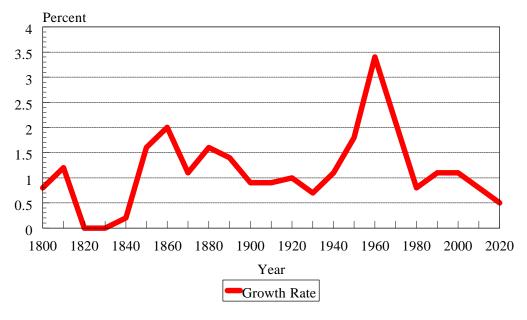


Figure 1.2 Average Annual Population Growth Rates Delaware 1790-2000

Figure 1.2 shows the acceleration in growth that began after the low point during the Depression in the 1930's. The state grew at a fairly steady rate from 1840 to 1950, after which population growth began to explode. This pattern continued unabated for 20 years until the oilcrisis induced recession occurred and the migration to the sunbelt began. More recently, growth rates have returned to average levels experienced during the past two hundred years. There is little reason to expect either a rapid increase or decrease in these traditional levels absent a major economic shock or some trigger that makes Delaware an undesirable place to live and work.

Kent County continues to grow at rates that are consistent with those of the state throughout the last century. In the late 1980s, however, the population of Sussex County began to expand much more rapidly. For the period 1990 to 2000, its growth rate has exceeded 2.4% annually. Those rates approach, but do not exceed, those experienced in the state during 1940 to 1960 (Figure 1.2). The long-term annual population growth rate for Delaware is 1.21%, although for this decade it will be slightly higher than that, 1.25%. That masks significant differences in the counties, however. The rate in Kent County is 1.2%; for New Castle County 0.9%; and for Sussex

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census Decennial Census 1790-1990 Delaware Population Consortium, January 1998

2.5%. Smaller, less developed areas (such as New Castle County below the canal, 4.2% from 1990 to 2000) can experience even higher rates in the short run, but such rates are not sustainable.

# Figure 1.3 State of Delaware and County Populations 1790-2000

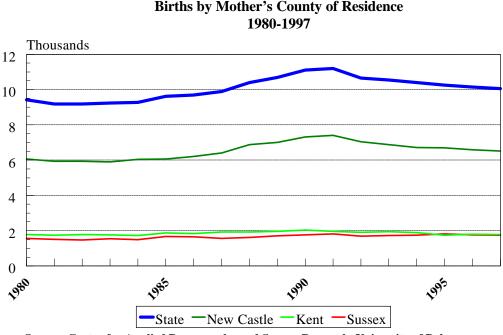
Year	State	Growth Rate	Kent	New Castle	Sussex
1790	59,096		18,920	19,688	20,488
1800	64,273	0.8%	19,554	25,361	19,358
1810	72,674	1.2%	20,495	24,429	27,750
1820	72,749	0.0%	20,793	27,899	24,057
1830	76,748	0.0%	19,913	29,720	27,115
1840	78,085	0.2%	19,872	33,120	25,093
1850	91,532	1.6%	22,816	42,780	25,936
1860	112,216	2.0%	27,804	54,797	29,615
1870	125,015	1.1%	29,804	63,515	31,696
1880	146,608	1.6%	32,874	77,716	36,018
1890	168,493	1.4%	32,664	97,182	38,647
1900	184,735	0.9%	32,762	109,697	42,276
1910	202,322	0.9%	32,721	123,188	46,413
1920	223,003	1.0%	31,023	148,239	43,741
1930	238,380	0.7%	31,841	161,032	45,507
1940	266,505	1.1%	34,441	179,562	52,502
1950	318,085	1.8%	37,870	218,879	61,336
1960	446,292	3.4%	65,651	307,446	73,195
1970	548,104	2.1%	81,892	385,856	80,356
1980	594,338	0.8%	98,219	398,115	98,004
1990	666,168	1.1%	110,993	441,946	113,229
2000	757,325	1.3%	125,396	486,546	145,383

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census Delaware Population Consortium, January 1998

# **Components of Growth**

Overall population growth is dependent upon two components: natural increase and net migration. Natural increase is the number of births to Delaware residents less the number of Delaware residents who die. That quantity is represented by the lightest curve in Figure 1.6 and has

been around 4,000 per year until the "baby boomlet" started in 1985 and ended in 1991. The most recent trends in births are found in Figure 1.4 below.



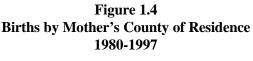


Figure 1.4 shows the impact of the boomlet. The pattern however was distinctly different by county. Kent County births increased and then declined back to levels experienced prior to the beginning of the trend. New Castle County experienced the largest increase in births but has now declined and seemingly is stabilized at a level well above the earlier trend line. Sussex County births increased steadily and are today close to the 1991 peak. The difference in the performance of the three counties illustrates the fact that there are almost certainly different demographic dynamics occurring in each.

The other part of natural increase is death or mortality. These patterns are highly predictable since they are almost entirely a function of age. Kent County has the youngest population with a median age of 32. New Castle County and Sussex County have median ages of 33 and 36, respectively. For this reason alone, the number of deaths expected in Sussex County should be increasing more rapidly than in the other two. This is shown in Figure 1.5 below.

Source: Center for Applied Demography and Survey Research, University of Delaware **Delaware Health Statistics Center** 

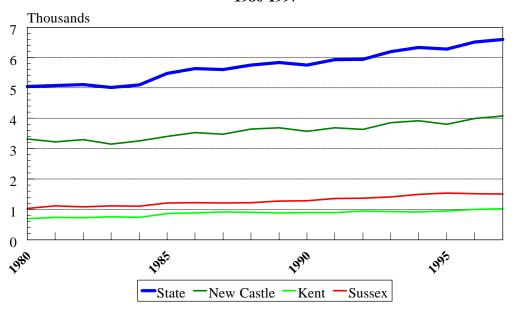


Figure 1.5 Deaths by Decedent's County of Residence 1980-1997

Source: Center for Applied Demography and Survey Research, University of Delaware Delaware Health Statistics Center

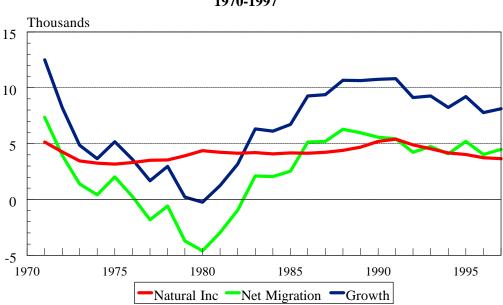
As expected, the absolute number of deaths is increasing. Both the increase in the total population during the period and the aging of that population guarantees that result. Kent County shows an increase, but a significantly smaller one than that for Sussex County, even though the two populations are similar in size. Age structure definitely counts.

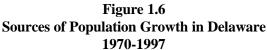
Population has only two sources of growth: natural increase and net migration. Natural increase itself is a function of births in a given period less the deaths in the same period. The size of this factor depends largely on the age of the population and the number of children people choose to have. As the average age of the resident population increases, other things equal, the number of births fall, the number of deaths increase, and natural increase falls.

Net migration is much less predictable and is the source of most of the volatility in population growth rates. It is also influenced by many more complex factors. Delaware experiences net in-migration when more people enter the state than leave. This occurs when, for a variety of reasons (quality of life, job opportunities...), Delaware is more attractive than alternative

locations. However, net out-migration can occur when conditions reverse. The relationship between these two sources of growth and total annual population growth is shown in Figure 3 below.

From July 1970 to June 1971, population growth in Delaware was even more than that being currently experienced. The population grew by almost 13,000 people, and more than 8,000 of that came from net in-migration. As economic conditions worsened, annual population growth fell and was slightly negative in the 1979-1980 period when out-migration approached 5,000. The important point is that the general shape of annual population growth is largely dictated by net migration. It also, for the most part, follows the business cycle.





Source: Center for Applied Demography and Survey Research, University of Delaware

Figure 1.7 above shows the components of Delaware's population growth since 1970. Annual population growth, which is represented by the darkest line in the graph has been as low as 2,000 persons, in 1982, at the end of the recession. It was as high as 13,000 persons, when the economy peaked in 1989. Natural increase (births-deaths) has been remarkably stable, around 4,000 persons annually during the period, and today is about where it began in 1980. However, this component of growth is likely to decline over the longer term as the effect of an aging population (the Boomers) begins to offset the increases in births coming from the baby boomlet.

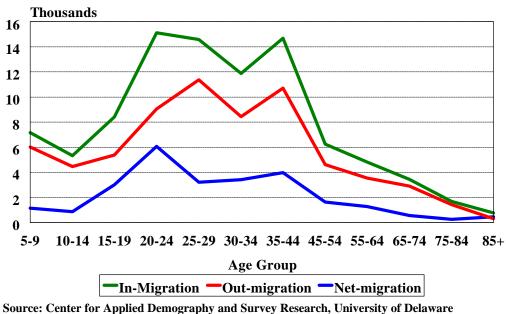
Almost all of the shape of population growth is now being dictated by the other component, net migration.

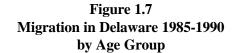
Net migration, which is the result of persons moving into Delaware less persons moving out of Delaware, is clearly the volatile component of the growth picture. It has moved from net outmigration of -2000 in 1982 to a high of +8000 net in-migration at the peak of the economic cycle in 1989. It then fell during the recession years of the early 1990s and today accounts for slightly more than half of all population growth.

These data suggest that Delaware's population growth is heavily influenced by local labor market conditions. Delaware's economy has consistently produced unemployment rates below those for the nation and region and has continued to generate new jobs sufficient to attract net inmigration. However, employment is not the only attraction. Sussex County, which depends on net in-migration for about 80% of its population growth, attracts retirees. Those retirees generate new economic activity and employment for others who then move here. The next set of figures illustrates the complexity of this process.

## Migration

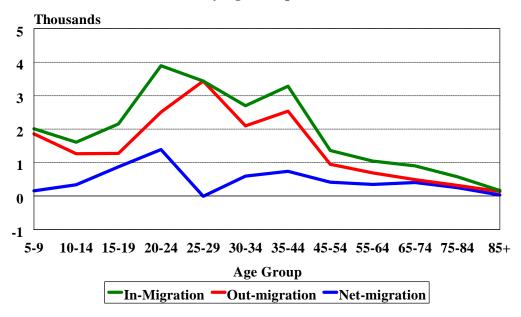
Figure 1.7 below, shows total in-migration, out-migration, and net-migration for Delaware from 1985 to 1990. This is the most recent 5 year data available. It is also quite similar to the county level tax-migration data issued by the IRS for the period 1990-1996. For this reason, it is treated as representative of current migration activity. The lightest line on the chart represents net migration. It shows net in-migration for every age group, but the vast amount of net in-migrants are between the ages of 15 and 45. The largest group (20-24) is probably unduly influenced by the out-of-state population attending the University of Delaware, but it also reflects the availability of jobs in Delaware for recent graduates that holds them in the state.





Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

Figure 1.8 Migration in Kent County 1985-1990 by Age Group



Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

Further, those in the 20-35 age group are probably more mobile and are more willing to take risks to improve their economic circumstances. Overall, the 65 and over group, while positive for migration, is not a major contributor to the state's overall growth. This, however, will vary by county, as will be shown in the next set of exhibits.

The pattern for net-migration in Kent County (Figure 1.8) has much the same shape as the state. The peak is in the 20-24 age group, perhaps influenced by Dover Air Force Base, and there is a drop in the 25-29 age group. This drop is much more exaggerated than for the state, with net migration falling to zero before rising with the 30-44 age groups. This might be influenced by Delaware State University and the air base, but may also reflect the relative sparseness of job opportunities in the county. The older age groups are much more stable, with a significant number of the 65+ group migrating to Kent County. These may include military retirees returning to the Dover area.

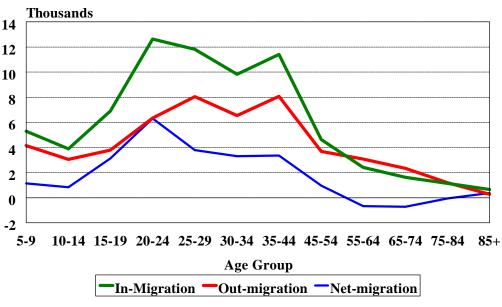
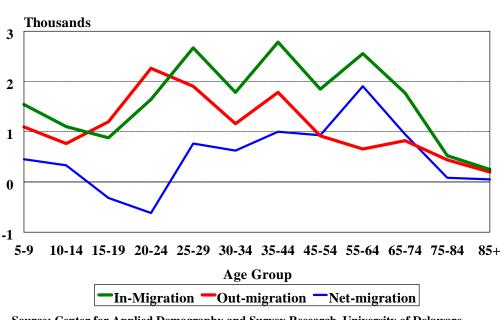


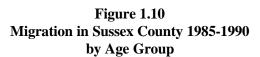
Figure 1.9 Migration in New Castle County 1985-1990 by Age Group

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

The principal features of migration in New Castle County shown in Figure 1.9 above, are the very strong in-migration of the 20-44 age groups and the net out-migration in the 55-74 age groups. These may represent people leaving the corporate headquarters companies to retire

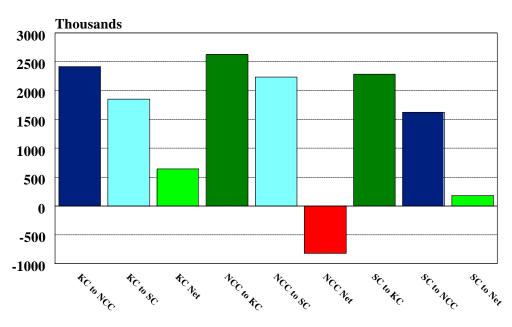
elsewhere, but may also reflect retirement to a vacation home in Sussex County. New Castle County is the only county that shows net out-migration of older residents. These data also suggest that the labor market is strong for the younger age groups and that net in-migration will help provide labor for those companies that wish to expand.





Sussex County, not unexpectedly, has a very different migration profile. There are three distinctly different aspects of the profile. First, there is net out-migration in the 15-24 age group. This may represent young people leaving for school, or to find better job opportunities, or it may simply reflect the absence of major educational or military institutions that are found in Kent and New Castle counties. Second, there is solid net in-migration in the 25-44 age groups. That suggests there are job opportunities being created in Sussex County. These are being created, at least in part, by the net in-migration of the older age groups. A substantial part of total net-migration in Sussex County falls into these older age groups. In contrast with the state profile, the 44-64 age groups show significant growth from migration and that growth continues although at a lower level up until age 75.

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census



# Figure 1.11 Internal Migration in Delaware 1985-1990 by County

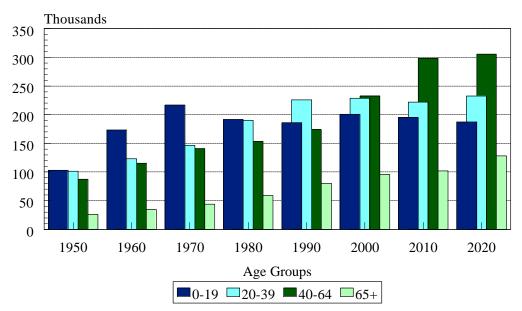
Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

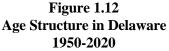
Finally, the internal migration in Delaware is shown in Figure 1.11. There is movement between the counties over the period with about 12,000 people changing counties. New Castle County is the only net loser and Kent County is the largest gainer. Both Sussex and New Castle lost population to Kent and New Castle lost population to both Kent and Sussex counties. The largest single movement, approximately 500, was from New Castle to Sussex. Since New Castle County also experienced net out-migration of the older age groups, a portion of this shift is probably from retirees.

Net migration is extremely important to Delaware. It is the most dynamic force in creating population growth. It can significantly alter the age structure of the population and thus alter its demographic profile. It can serve to increase or decrease the supply of labor and thereby alter the attractiveness of Delaware as a place to live and work. All of these factors will affect the economy of the state.

#### Age Structure

Age matters. It matters because there is a life-cycle and the activities and decisions that people make are different at different points on that cycle. When viewed in aggregate, changes in the age structure can be a powerful predictor of the collective choices that a population will be making now and in the next twenty years. For example, the "baby bust" has helped lower the crime rate and reduced the rate of family formation as they aged. The "baby boomlet" has already had a significant impact on the schools and will likely lead to another surge in the crime rate and a significant increase in rate of household formation. The "baby boomers" are now adding to the overall household income of the state and will eventually cause a crisis in social security and health care.





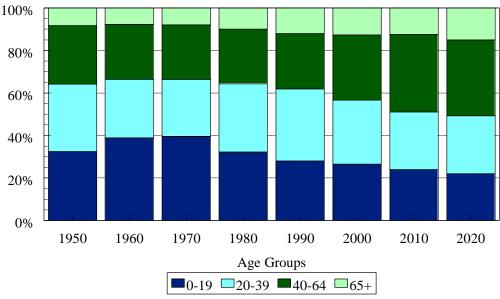
Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

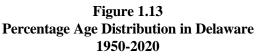
All of these groups are clearly visible in Figure 1.12 above. The bulge of about 60,000 people passing through the distribution are the Delaware Boomers. In 1990, the largest group is about 20-39 years old. In thirty years they are 40-64. (The "boomers" begin to reach 65 in 2010

and with the last ones retiring in 2030). It is also interesting to see that the numbers in this age group increase over the next twenty years largely because of the positive net in-migration of those groups as was noted in the earlier discussion. Overall, this group should be experiencing significant increases in income and their choices and activities should reflect that.

The baby bust is clearly identifiable in the graph since the population 0-19 is absolutely lower in 1980 and 1990 than in 1970. From there, the numbers rise as the baby boomlet appears on the scene.

At the high end of the age distribution, the increasing number of older Delawareans is clearly visible with the number in the 65+ age group increasing by nearly 50,000 over the thirty years from 1990 to 2020. The increases in these older age groups will probably have a significant impact on the need for public services at a time when overall incomes will almost certainly be declining relative to their peak earning years.





Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

The impact that these groups have on the percentage distribution of age in the population is shown in Figure 1.13 above. The higher growth rate in the 40-64 and the 65+ groups is obvious.

#### **Household Composition**

Household formation and composition are key factors in deciding how the population is distributed across the landscape of the state. New households are created by young adults leaving their parents' households. They are also created when a household is split apart by divorce. Households are also destroyed when two households are combined by marriage or other arrangement (e.g., parents or children move back home.)

Household composition also changes as household formation occurs. The two single person households become a husband-wife household at marriage. At divorce, the "traditional family with children" becomes a single person living alone and a single parent household. The size of the household is also affected by births and deaths within the household. The rate and shape of all these various factors can have a profound affect on everything from households in poverty to the journey to work.

Figure 1.14, below, illustrates several significant trends in household formation during the last half century. First of all, the annual rate of growth in households over the period was 2.4% while the annual rate of growth was 1.8%. The difference is even more dramatic over the decade of the 1980's when population grew at 1.1% and households expanded at an annual rate of 1.8%. The net effect of these differential growth rates leaves with an average household size that has declined from 3.4 persons per household, in 1950, to 2.6 per household expected in the year 2000.

There are three major reasons for the drop in household size. First, the number of children that women expect to have over their lifetime has fallen significantly. Further, the age at first marriage and the proportion of women that never marry have increased. All of these factors have cut general fertility rates by about 40%. Much of this is related by the unprecedented increase in female labor force participation rates which have risen from about 30% to more than 60% over the last 50 years.

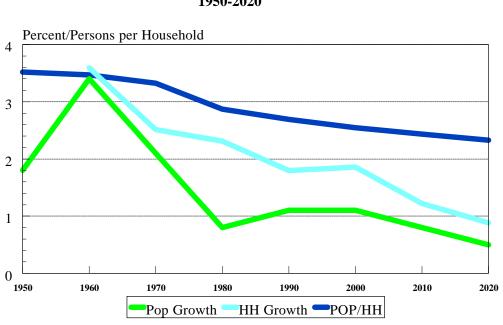


Figure 1.14 Population and Household Growth Rates in Delaware 1950-2020

The second major reason is the increase in the number of single parent households brought about by the increase in the rate of divorce and by the increased growth rate in households headed by women who have never married and have children. Both of these factors reflect major shifts in societal attitudes over the last fifty years.

The final reason is longevity. The "traditional family" of two adults and two children begins the cycle with a household size of four. It declines to two after the children leave home and then to one when the first adult dies. As longevity increases, the period of time when the household size is either two or one also expands. As those older adults stay longer and longer in the family home, the time when that housing unit will be "back-filled" by a larger household increases. Taken together with the other two factors, it is hard to see at what point household size will cease its downward drift; certainly not until the "boomers" pass on well into the next century.

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

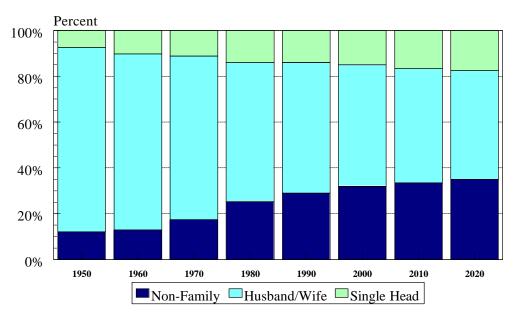


Figure 1.15 Distribution of Household Types in Delaware 1950-2020

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

Families are a particular type of household. Families are those households that contain two or more people who are related by marriage or blood. This contrasts with households made up of a single person or a group of unrelated individuals e.g. roommates. Except in unusual cases, children are always found in families or in a non-household entity called group quarters (e.g., orphanage, boarding school.)

Figure 1.15 above, shows the relationship between the different types of households. It is one where husband and wife households are still a majority, but are a sharply declining majority of households over the past 50 years. This trend largely results from a rapid increase in the number of single person households propagated by divorce, later marriage, and longevity coupled with more households made up of unrelated adults.

The structure of families is also changing. In 1950, only 12% of all households were families with a single adult head. Today that proportion has increased to nearly 20%. It also means that adults are spread out across a larger number of households than would have been the case in 1950.

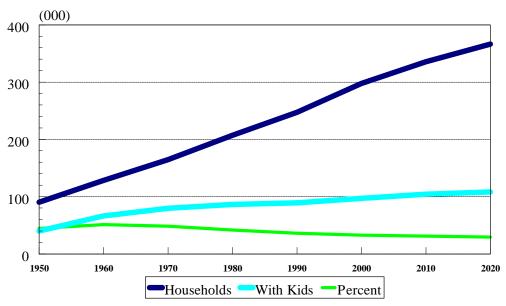
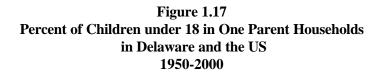
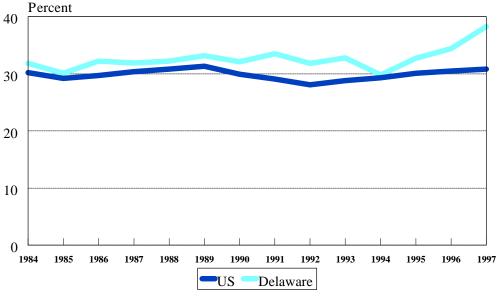


Figure 1.16 Households with Children under 18 in Delaware 1950-2000

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census





Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

Finally, the number of households with children under the age of 18 (Figure 1.16), has fallen significantly from 51%, in 1960, to approximately 33% today. This change in composition has a significant impact on the choices and actions undertaken by households. In Figure 1.17, Delaware is clearly not alone in the problems facing single parent households.

## Figure 1.18 Occupied Year Round Housing Stock in Delaware 1970-1990

#### State of Delaware

Structure	1990 Units	1990 Percent	1980 Units	1980 Percent	1970 Units	1970 Percent
Single Family	170,011	69.8	149,314	72.1	125,929	76.4
Multi-Family	50,554	20.8	43,950	21.2	31,156	18.9
Mobile Homes	22,906	9.4	13,817	6.7	7,719	4.7
Total	243,471	100.0	207,081	100.0	164,804	100.0

#### Kent County

Structure	1990 Units	1990 Percent	1980 Units	1980 Percent	1970 Units	1970 Percent
Single Family	25,582	64.5	22,952	70.1	16,393	70.1
Multi-Family	5,541	14.0	4,890	14.9	3,874	16.6
Mobile Homes	8,532	21.5	4,895	15.0	3,101	13.3
Total	39,655	100.0	32,737	100.0	23,368	100.0

#### New Castle County

Structure	1990 Units	1990 Percent	1980 Units	1980 Percent	1970 Units	1970 Percent
Single Family	118,847	72.4	99,435	71.6	88,075	76.1
Multi-Family	39,472	24.0	36,436	26.2	25,468	22.0
Mobile Homes	5,842	3.6	3,073	2.2	2,231	1.9
Total	164,161	100.0	138,944	100.0	115,774	100.0

#### Sussex County

Structure	1990 Units	1990 Percent	1980 Units	1980 Percent	1970 Units	1970 Percent
Single Family	29,673	67.9	26,927	76.1	21,461	83.6
Multi-Family	3,045	7.0	2,624	7.4	1,814	7.1
Mobile Homes	10,963	25.1	5,849	16.5	2,387	9.3
Total	43,681	100.0	35,400	100.0	25,662	100.0

Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Census

#### Housing Stock

Delaware's housing stock has also been changing. The choices people make about the type of housing they will occupy has ramifications for land-use and transportation among other issues. In Figure 1.18 above, the largest majority still choose the single family home, although the share has dropped from 76.4% to 69.8% over the past twenty years. Multi-family units increased in popularity during the seventies as the Boomers reached an age to leave home and form new households. However, the trend reversed in the 1980's where multi-family units captured a smaller share of the housing market, although the absolute numbers of units still increased. Mobile homes also increased in numbers and share during the last two decades. In fact, that category grew faster than either of the other two and today serves nearly 10% of the households in the state.

Most of the trends observed in the state-wide data are replicated in the county figures. There are however differences in the magnitude of those changes. Kent County continues to have the smallest proportion of occupied housing in single family units. In addition, the growth in multifamily units in Kent County lagged the growth rate for the state. This resulted in an overall reduction in multi-unit construction's share of the housing market. Mobile homes more than doubled over the period and gained additional share as the growth rate matched that of the state.

New Castle County still remains the bastion of the single family home. While the share did decline, that category fell the least among the counties and today is still over 70%. Multi-unit structures continued to increase but at a much slower pace than that during the first decade. Mobile homes grew in New Castle County at the state average rate but have a significantly smaller share of the market than is evidenced in either of the other two counties.

Sussex County is a somewhat different case. Their overall growth is heavily influenced by in-migration. Many of those in-migrants move into mobile homes that were previously used as seasonal housing. For that reason, the growth in occupied, year round mobile homes increased at a rate 50% faster than that observed in the state overall. This growth allowed mobile homes to increase their share from 9% to 25% during the period largely at the expense of single family homes.

Mobile homes are one of the solutions to affordable housing and that solution has been chosen extensively in Kent and Sussex counties. That choice has reduced the need for rental units which is reflected in the smaller shares for multi-unit construction when compared to New Castle County. There is little doubt that the lower income levels coupled with the lower densities add to this mix in Kent and Sussex counties. There have been difficulties gaining public approval for large scale mobile home parks in New Castle County. Finally, mobile homes are more likely to be dispersed much like a housing development in contrast to the settings for most multi-unit development. Given the fact that they are nearly 20% of the new housing over the last twenty years, more attention needs to be given to the long run implications of this choice.

# Employment

Employment is not static; it changes in many ways over time. Those changes will alter the way people make choices. Wage levels and job security will be influential in a variety of ways. These can vary by industry and occupation. As employment opportunities change in either dimension, there will be corresponding changes in the way people behave.

In this section, employment will be examined in several ways. The trends that are revealed will have an impact on economic growth.

# **Employment by Sector**

In Figure 2.1 below, the total employment for the United States from 1939 through 1997 is shown along with three of the ten employment sectors namely: manufacturing, services, and FIRE (finance, insurance, and real estate). The graph clearly shows the impact that the business cycle has had on total employment in the mid-1970s, the early 1980s, and the early 1990s.

The more subtle influence is related to the change in the structure of employment. Manufacturing employment peaked in the late 1970s and has been in a steady, although very shallow, decline since. Service industry employment increased steadily over the entire period and began accelerating its growth when manufacturing employment was at its peak. In 1981, service sector employment surpassed manufacturing employment and today accounts for nearly twice as much employment as manufacturing. This trend will probably continue unabated for the foreseeable future.

The pattern was similar in Delaware (Figure 2.2) although the recession of the mid-1970s was more severe and the later ones were perhaps less damaging than they were nationwide. For instance, statewide manufacturing employment peaked during 1989. This marked the end of the expansion of the 1980s. Since then, the number of manufacturing jobs available to Delawareans has dropped significantly and continues to fall even today.

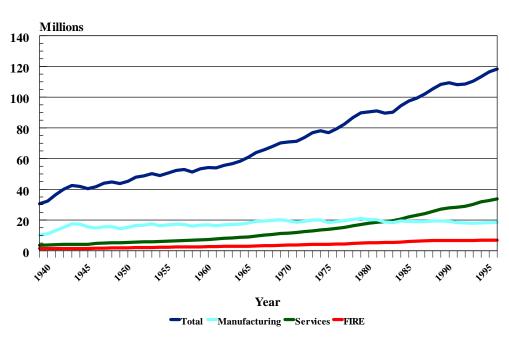
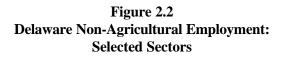
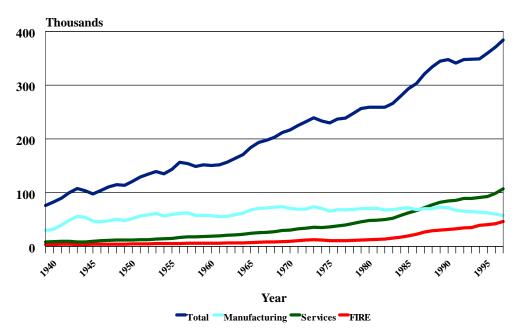


Figure 2.1 US Non-Agricultural Employment Selected Sectors

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Labor Statistics

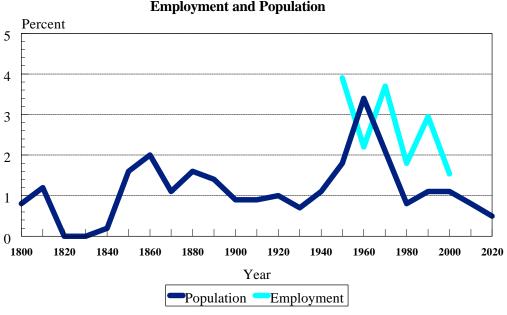


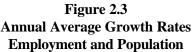


Source: Center for Applied Demography and Survey Research, University of Delaware U.S. Bureau of Labor Statistics, Delaware Department of Labor

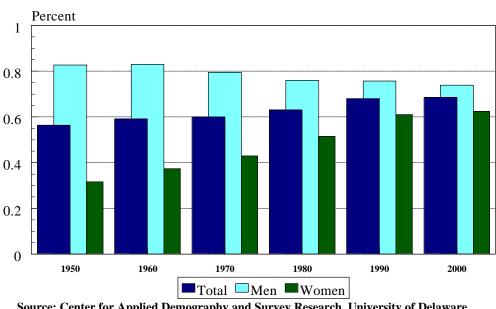
In 1986, four years after it happened nationally, statewide service industry employment surpassed manufacturing employment. The rate of growth in service sector employment in recent years has slowed somewhat compared with the rate for the U.S., but this has been offset by the incredible growth in the FIRE sector. Employment in the FIRE sector clearly exploded after the Financial Center Development Act came to fruition in the early 1980s. It continued to grow dramatically until the 1990-1991 recession. To most observers' surprise, the growth re-ignited in 1992 and continues today. A comparison of the trends in Figure 2.1 and Figure 2.2 show this to be a Delaware phenomenon.

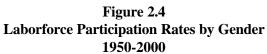
The decline in manufacturing jobs and the increase in service jobs is to some degree misleading. As manufacturing firms continue to down size, they also tend to out-source many functions that were previously accomplished by their own employees. These functions might include public relations, data processing, and many others. As a result, those functions may take the same number of people, but those people are now classified as part of the service sector rather than manufacturing. To the extent that this occurs, there has been a reclassification rather than an outright loss of jobs.





Source: Center for Applied Demography and Survey Research, University of Delaware Growth rates of employment usually track reasonably well with population, although perhaps with some lags. In Figure 2.3 above, the shape of the two curves are similar (although shifted) until 1990 when population growth was modest and employment growth was increasing. In general, employment growth has outstripped population growth but the divergence in the 1980's and even 1990's was considerable. These job opportunities undoubtedly drove the increase in net in-migration shown in Figure 1.6 earlier.



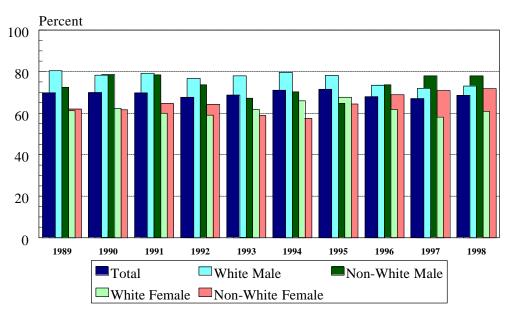


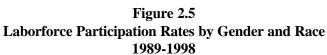
Jobs in Delaware are filled in one of four ways. First, there are new entrants to the labor market from the existing population who become old enough to work. These numbers are dependent on the size of the youngest cohort shown (0-19) in Figure 1.12 earlier. Second, there may be new entrants from the older groups who either have never worked before, were previously discouraged, or are now required to seek employment because of economic necessity. Third, there are net in-migrants coming to Delaware to fill jobs that cannot be filled locally for a number of reasons. Finally, there are net in-commuters; i.e., people who live in other states but who enter Delaware every day to work. (Of interest is the net number of commuters since many Delawareans also leave Delaware to work in surrounding states.)

In Figure 2.4 above, the laborforce participation rates by gender are shown for the past 40 years. Overall, the proportion of the population that is employed (either part-time or full-time) has been rising. It has been rising largely because of the increase in the rate among females. That major

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

source of new labor market entrants is gradually diminishing, at least relative to earlier years. The total rate by the year 2000 will have increased marginally, and the rate of increase in the female employment rate is declining. Employment rates for males have remained fairly constant. The increases that occurred between 1990 and 2000 were almost solely due to greater participation by minorities (Figure 2.5).





Source: Center for Applied Demography and Survey Research, University of Delaware Current Population Survey 1989-1998, US Bureau of Census

In the out years, 2000 to 2020, as the baby boomers retire (assuming they are able to retire), the employment rate will probably fall further. The caveat is that preferences for work may also change with longevity and the boomers may work longer at least on a part-time basis. This trend places further pressure on firms to attract in-migrants or net in-commuters to fill jobs if they are to be located in Delaware.

## Commuters

Net commuters are a booming business in Delaware. In 1960, 2000 more people left the state on their way to work than entered. Over the past 30 years, that situation has reversed to the point that more than 12,000 net commuters were filling jobs in Delaware in 1990. Today, net commuters are estimated to number almost 31,000 with 51,000 expected by the year 2010.

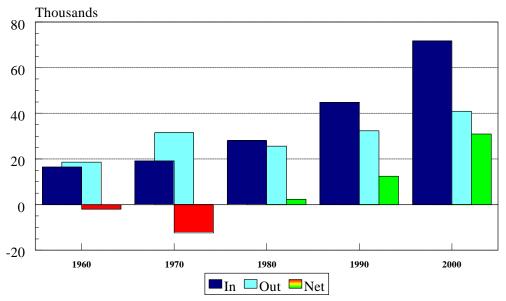


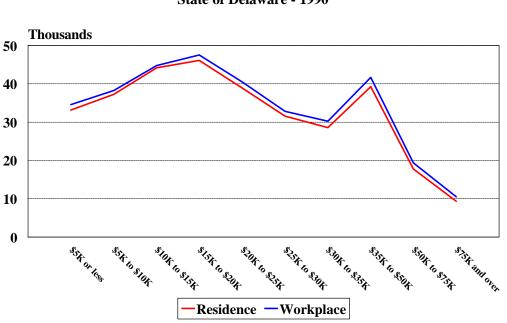
Figure 2.6 Commuting In and Out of Delaware 1960-2000

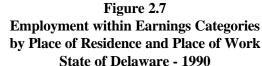
In 1990, (the latest year where such detail is available) Cecil County supplied the most workers: 10,892. Chester County, PA was a close second with 10,354 in-commuters and Delaware County, PA ranked third with 7,556. Other prominent contributors were Salem County, NJ (3,098), Philadelphia County, PA (1158) and Gloucester County, NJ (1,029).

Those leaving the state for work were primarily headed to Pennsylvania with 6,188 headed for Delaware County, 3,514 for Chester County, and 4,697 for Philadelphia County. There were also 2,142 going to Cecil County, MD , 2,630 to Wicomico County, MD, and 1,716 bound for Worcester County, MD. A total of 1,724 were bound for Salem County, NJ.

There were also significant flows between the counties within Delaware. Kent County was a net exporter of workers since 7,769 went to work in New Castle or Sussex counties and only 5,773 come into Kent from elsewhere in Delaware. Sussex County was also a net exporter of jobs, but only by about 500, and most of those go to Kent County. New Castle County attracts a net 2,445 jobs, almost all of which are workers coming to New Castle County from Kent County. Overall, including internal and external sources, New Castle County is a net importer of workers and Kent and Sussex are both net exporters.

Source: Center for Applied Demography and Survey Research, University of Delaware Journey to Work, US Bureau of Census and Bureau of Economic Analysis





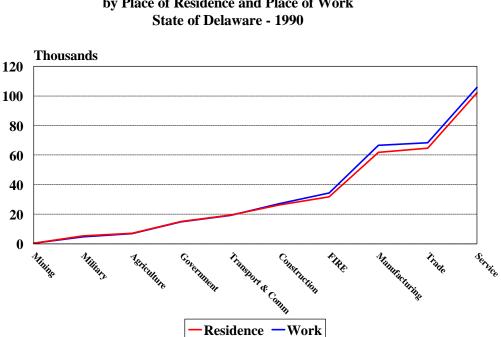
Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

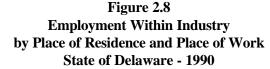
Finally, questions are inevitably raised as to what the effects are of all of this commuting. One of the most frequent is how commuting affects income levels in the state. The answer to this question is found, if indirectly, in Figure 2.7 above. The two lines show the number of workers at each income level by place of work and place of residence. Since more people work in Delaware than work and live in Delaware, the workplace line will always be above the line for residence. The most important feature of the figure is that the two graphs are essentially parallel. This means that those who come into the state to work and those who live here and work outside the state are distributed similarly across the income distribution. If, for example, the more high income workers commuted into Delaware than commuted in the opposite direction, a wider gap would be expected between the two lines.

There are, however, two places where the distributions are a bit different. At \$10,000, there is very little difference in the two lines. This suggests that the number of in-commuters almost offsets the number of out-commuters. The opposite is true at \$35,000 where the gap grows wider

showing relatively more in-commuters than out-commuters at that income level. Overall the distributions are quite similar.

Questions are often asked about the sectors that are attracting commuters across Delaware's borders and what occupations are the most in demand. These issues are addressed in Figures 2.8 and 2.9 below.





Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

For those sectors with less than 30,000 employed, there are only small differences between in and out commuting. The two lines representing employment by place of residence and place of work almost coincide. The four largest sectors, including FIRE (finance, insurance, and real estate), Manufacturing, Trade (wholesale plus retail), and the Service industry all have net incommuting. Of those, Manufacturing has the largest absolute number of net-commuters. If the earlier discussion on the impact of commuting on earnings had not shown a relatively stable pattern, it would have been reasonable to expect negligible net commuting in Trade and Service. This is not the case. Apparently, the relatively lower earnings in those sectors are not deterrents to commuting.

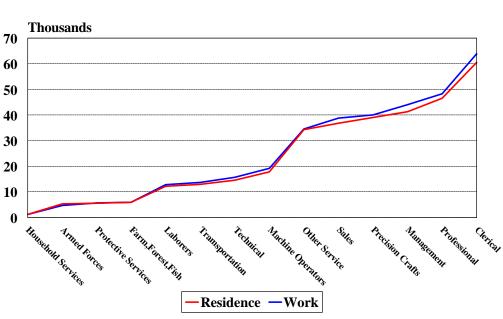
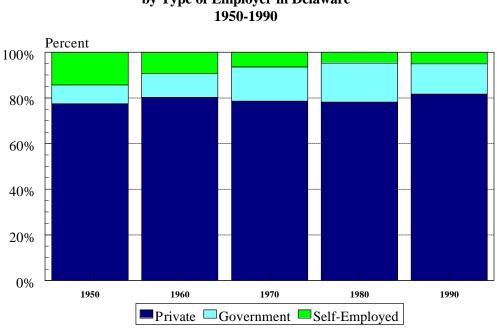


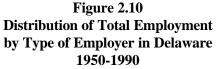
Figure 2.9 Employment within Occupation by Place of Residence and Place of Work State of Delaware - 1990

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

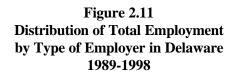
The affect of net commuting on the structure of occupations is consistent with the findings for both earnings and industry (Figure 2.9). Managers lead the way for net in-commuting. Many of these are likely to be in the manufacturing sector, given the larger size of firms in that sector. Clerical workers enter Delaware in similar numbers (net) with many working in both manufacturing and the service sector. Net in-commuting in the trade sector is also consistent with net in-commuting of sales personnel.

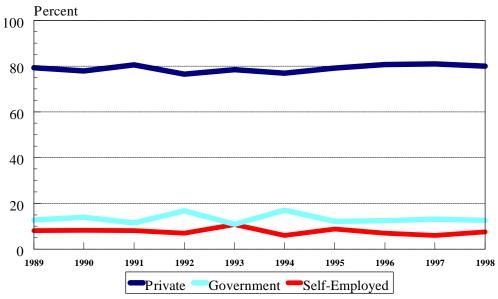
Overall, net in-commuting appears to have a benign impact on the state. There is an impact at "drive time" since most of these commuters are in their automobiles. On the other hand, they are not making off-peak trips and they pay Delaware income taxes without receiving many of the state's services. It is also likely that many of the workers in the Trade sector are servicing outof-state shoppers who are avoiding their state sales tax. That activity has an impact on traffic, but it also has a positive influence on the state's economy.





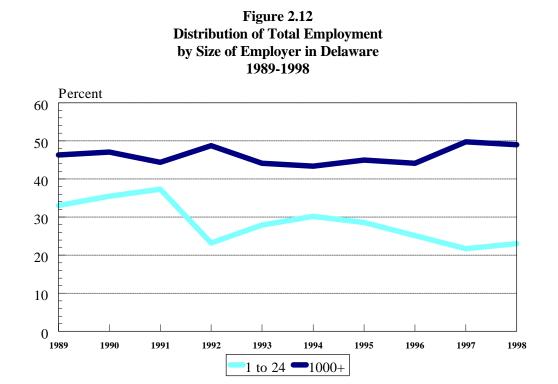
Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census





Source: Center for Applied Demography and Survey Research, University of Delaware Current Population Survey 1989-1998, US Bureau of Census

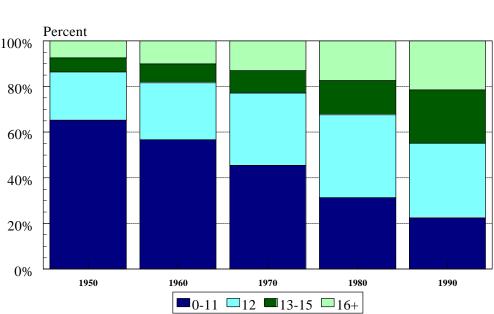
Another important aspect of the labor market is the distribution of employment among three types of employers: the private sector, the public sector, and the self-employed. These distributions are found in Figures 2.10 and 2.11 above. The distribution today is quite different than what existed in 1950. First, the self-employed share was significantly larger. This reduction probably reflects the increase in good job opportunities in the labor market. At the same time, government's share of employment (federal, state, and local) first expanded rapidly, and then more recently, has used a smaller portion of total employees. More recent data are shown in Figure 2.11. The distribution has been reasonably stable over the last ten years.



Source: Center for Applied Demography and Survey Research, University of Delaware Current Population Survey 1989-1998, US Bureau of Census

Employment has increased by almost 50,000 persons during the decade represented in Figure 2.12 above. Large firms, which have been engaged in "right sizing", managed to increase their share of total employment by about 1%. At the same time, small firms actually lost share, about –8%. A much larger share of total employment now goes to firms neither large nor small. Those firms more than doubled their share, which means they were growing significantly faster than the other two groups of employers.

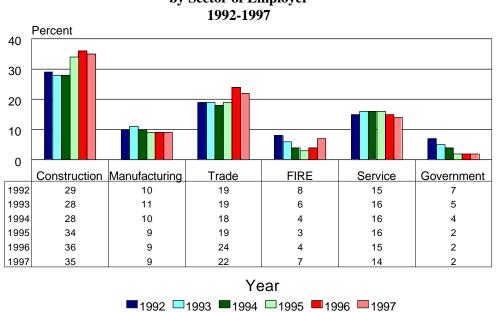
A major shift occurred in the FIRE (finance, insurance, and real estate) sector when the state enacted the Financial Center Development Act in the early 1980s. The impact on that sector was obvious in Figure 2.2 earlier. That sector's employment has increased threefold over that period and undoubtedly many other jobs have been generated in other sectors. This initiative fundamentally changed the level of diversification within the labor market and the economy.

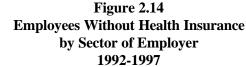


## Figure 2.13 Distribution of Years of Education (persons aged 25 and older) 1950-1990

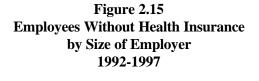
As the size of each sector changes, job opportunities also change for those sectors. The time when one could simply graduate from high school and get a well-paying job at the local factory is largely gone. Many of the less skilled jobs have been replaced by robots. As a result, many of the good jobs being created require significantly more education, either formal or employer-provided. Many of these jobs are performed by "information workers" now found in the service sector. They require the ability to use and process information in a variety of ways. For those without such skills, the future is not bright. Many are destined to remain at the low end of the income structure in lower level sales, clerical, and "old service sector" jobs. Fortunately, people are improving their educational level (Figure 2.13).

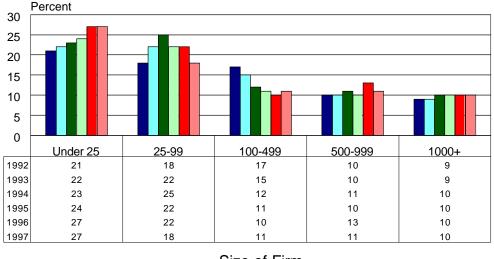
Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

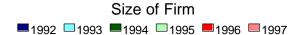


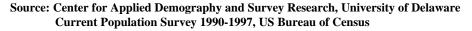


Source: Center for Applied Demography and Survey Research, University of Delaware Current Population Survey 1990-1997, US Bureau of Census

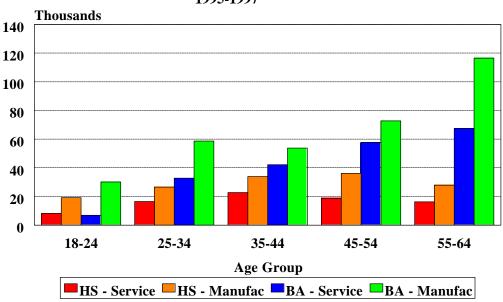


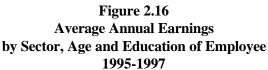






Characteristics of the firms in Delaware such as sector, size, and type can have interesting side-effects. Employer sponsored health insurance is one of the key fringe benefits offered to many employees. As is shown in Figures 2.14 and 2.15 above, the characteristics of your employer will impact whether that benefit is available. First, the FIRE and government sectors have the lowest percentages of uninsured followed closely by the Manufacturing sector. Unfortunately, the industries that are expanding fastest in terms of jobs are those with the highest percentages of uninsured. One of the effects of jobs shifting to the Service sector from Manufacturing is that the benefits are generally not as rich. The same conclusion holds for small firms (less than 100 employees) shown in Figure 2.15 above.





Source: Center for Applied Demography and Survey Research, University of Delaware Current Population Survey 1995-1997, US Bureau of Census

The impact of changing sectors and educational levels can also be seen in Figure 2.16 above. It shows the average annual earnings by age, education, and industrial sector. The first two bars represent annual earnings for high school graduates in the service and manufacturing sectors respectively. The next two bars depict the same information for college graduates in the same two sectors.

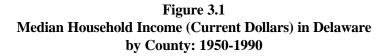
The graph shows a difference of about \$15,000 in annual earnings between the two sectors at the mid-career age level holding level of education constant. There are a number of reasons for this difference. For example, those employed in manufacturing are much more likely to be represented in a collective bargaining unit; a union. They are also more likely to work full-time with significant overtime.

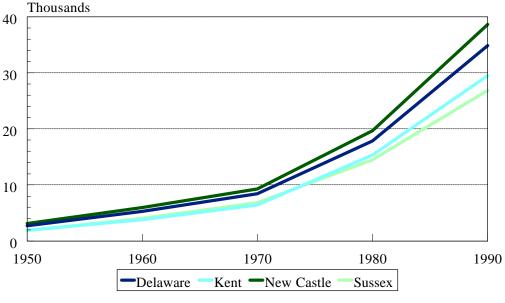
In contrast, service sector workers are more likely to be employed by non-union companies and are much more likely to work part-time. These factors, coupled with the increasing number of service sector workers relative to the number of manufacturing workers will tend to impact the choices people make. On the bright side, there are indications that the differential may decline over time. Many of the jobs currently being out-sourced are high paying jobs. As those are incorporated into the service sector, the overall wages of service sector jobs will rise. This is unlikely to affect those with just a high school education, who will find it much more difficult to find a job in the manufacturing sector.

# **Income and Poverty**

### Median Household Income

As labor force participation increases and the proportion of people in a household increases, median income should rise, other things equal. Further, income rises with age. Since Delawareans are getting older and are approaching their peak earning years it would be expected that household incomes would rise. On the other hand, the shift out of manufacturing into the service sector could act as a drag on median income, at least in the short run. Further, the nature of households is changing, a fact that was discussed in detail earlier.





Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

The data shown in Figure 3.1 are in dollars of the time period unadjusted for inflation. The information found in Figure 3.2 is in constant 1995 dollars.

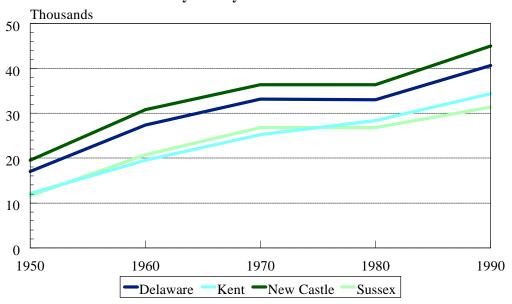


Figure 3.2 Median Household Income (Constant Dollars) in Delaware by County: 1950-1990

Median household incomes in constant dollars were rising steadily from 1950 to 1970. Those decades were ones of rapid economic growth in Delaware. The 1970s were another story. It was a decade of slow growth and net out-migration, at least in New Castle County. A major recession hit the state and the country following the massive increases in oil prices. By the end of the decade the country faced major inflation and unprecedented interest rates which led into a major recession in the beginning of the 1980s. For those reasons, there was no real growth in median household income with the exception of a modest increase in Kent County.

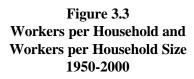
The decade of the 1980's was largely a period of major economic growth in Delaware from 1982 through 1990, with strong growth in median household income in all counties. New Castle County enjoyed the largest increase, but Kent and Sussex counties both experienced increases of nearly 20% over the decade. Part of the increase resulted from strong employment and very low unemployment rates, and part reflected the baby boomers enjoying income increases associated with their stage in the life cycle.

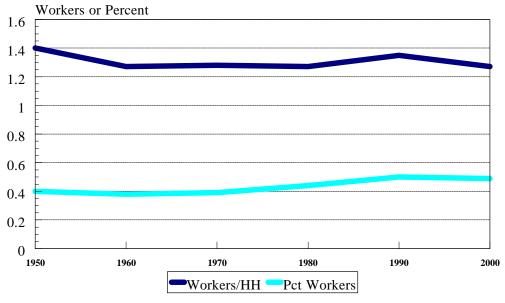
Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

#### Workers per Household

The statement is often made that "it takes two people working today to make ends meet." This suggests that there should have been an increase in the number of workers per household as labor force participation rates increased. This is not quite the case for one major reason.

In Figure 3.3 below, *Workers per Household* is the top line for the period 1950-2000. The numbers have actually declined steadily over the past 40 years and only in 1990 was there a brief up tick. This data shows that workers have in fact become more dispersed through households over the period. The reason for this result is the decline in average household size from 3.5 persons per household in 1950 to 2.6 persons per household in the year 2000. One large part of that decline was the increase in single person households. Single person households can never have more than one worker per household.





# Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

The original statement still has some validity if the data is viewed in a different way. In the line labeled *Workers/HH*, the ratio of workers to household size is shown. That metric declines steadily for the first twenty years and than begins to increase. In 1950, 41% of the persons in the average household were employed. By 1990 that proportion had increased to 50%.

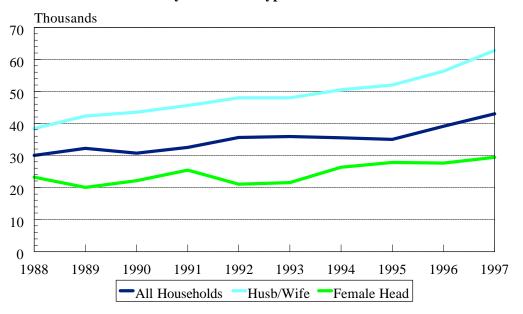


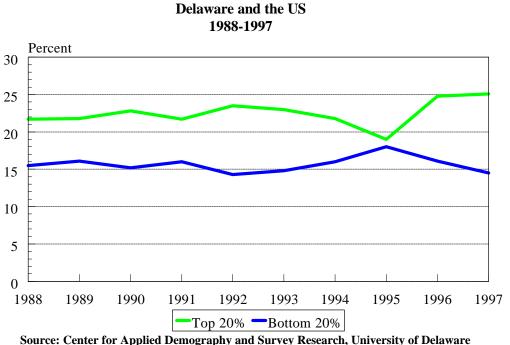
Figure 3.4 Median Household Income (Current Dollars) in Delaware by Household Type: 1988-1997

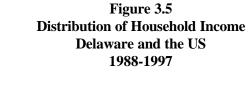
Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census Current Population Survey, March 1989-1998

Since 1990, and the recession that followed in 1991, the record is mixed. The current dollar estimates (i.e. unadjusted for inflation,) are shown in Figure 3.4. It is important to realize that the data in this figure are from a completely different source than the decennial census and thus, are not directly comparable. However, the shapes of the graphs are indicative of the current changes in income levels.

Clearly, median household incomes for all households fell somewhat during the 1991 recession and began to rise after that although not always in a straight line. The figure also shows, however, that not all households have benefited equally during the recovery. Families headed by a single female have only managed modest increases (\$3,000) even in current dollars, which means they have lost ground since 1991. Most of the gains (\$16,000) were achieved by husband-wife households.

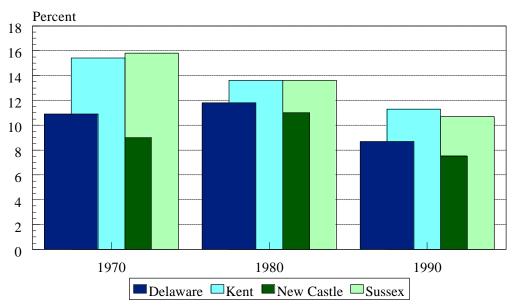
Delawareans are doing better than other residents of the United States with respect to household income. In Figure 3.5 below, the proportions of Delaware households in the top and bottom 20% of US incomes are graphed. If Delaware incomes were identical to the rest of the United States, there would be a single line at 20%. That is not the case since the top 20% line is always greater than 20% with the exception of 1995, and the bottom line is below 20% through





US Bureau of Census Current Population Survey, March 1988-1997

Figure 3.6 Persons in Poverty in Delaware 1970-1990



Source: Center for Applied Demography and Survey Research, University of Delaware **US Bureau of Census Current** 

the entire period. Since 1995, about 25% of Delaware households are in the top 20% income group while only about 15% are in the lowest 20% group.

#### Poverty

Figure 3.6, above shows the trend in poverty within Delaware over the past twenty years. The pattern is fairly predictable given the general performance of the economy. The state experienced an overall increase in poverty during the decade of the 1970's. The increase was concentrated in New Castle County where the job picture was sufficiently negative that net outmigration occurred. Both Kent and Sussex county residents are less likely to be in poverty than in the past but they still are more at risk than residents of New Castle County.

The economic expansion of the 1980's, which generated increases in median household income, also dramatically reduced the poverty rates throughout the state. This was especially true in New Castle County which enjoyed the largest increase in real income. Poverty rates in 1990 were nearly 20% lower than those observed two decades earlier.

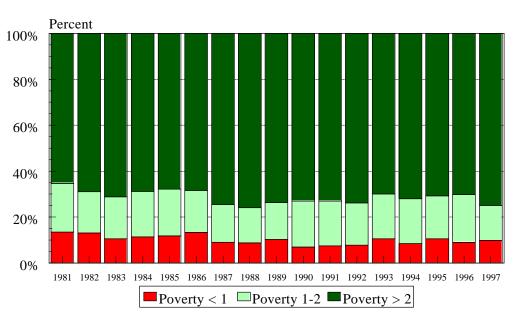
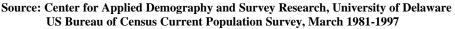


Figure 3.7 Poverty Class of Households in Delaware 1981-1997



Since 1990, poverty rates have been variable. Figure 3.7 contains estimates of poverty by class of poverty in Delaware since 1982. In general, the rates have trended lower over the period; however, they do vary along with the level of economic activity. The most sensitive group however seems to be the near poverty group, those between poverty and 100% above the poverty line. This number dropped significantly during the expansion, especially from 1986 to 1989 before rising during the 1991 recession. Since that time, it has remained a constant 20% of the population. This further corroborates the claim that the latest recovery was uneven.

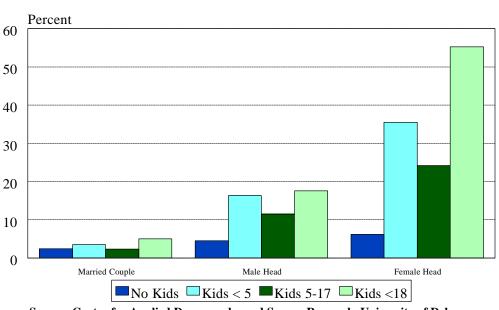
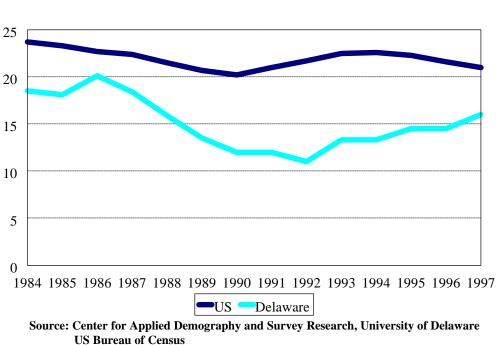


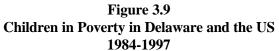
Figure 3.8 Poverty by Type of Household in Delaware 1990

Figures 3.8 and 3.9 show a slightly different aspect of the poverty problem and illustrate why it is a difficult problem to resolve. First, poverty is far more prevalent in the types of households that are increasing in number and proportion as was shown much earlier. Second, households that are in poverty are likely to have children. This is especially true for households headed by a single female. Some of this is unavoidable since 50% of all marriages end in divorce and the female usually gains custody of the children. In spite of alimony and child support, many of these new households will end up in poverty for a number of years until the female is able to increase her income. Perhaps the more significant issue is that the children in these households constitute a significant fraction of our future labor force. To the extent that poverty affects adversely the ability of the parent to support the education of these children, they will be subjected

Source: Center for Applied Demography and Survey Research, University of Delaware US Bureau of Census

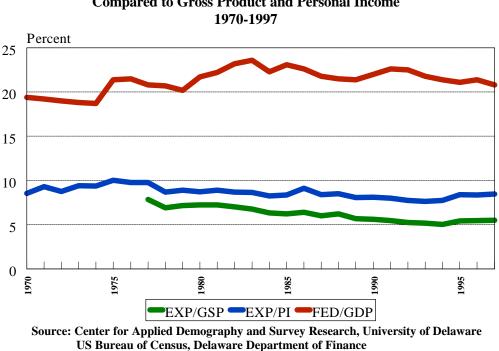
to the income differentials described in the previous section. In the final analysis, many of the issues that look like social problems may negatively impact Delaware's economy.

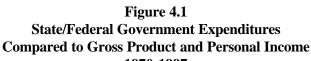




# **State Government**

The policies of state and local government can have an impact on the way the state economy grows. Both companies and individuals look for a balance between public goods and services (schools, roads, police...) provided and the cost of providing them. Excessive taxes or low quality goods and services may inhibit the ability of companies to attract new employees to live in Delaware. At the same time, people may interpret a lack of services as potentially reducing their quality of life. This can have a negative impact on the ability of the state to attract new employees. In Figure 4.1 below, the ratios of state government expenditures (EXP) to both personal income (PI) and gross state product (GSP) are shown. Also shown are federal expenditures during the same time period.





State government expenditures have been declining slowly as a percentage of both measures over the years. There are some anomalies, most notably in 1986 and after 1994 when the rate moved higher. Both reflect times of strengthening economic activity and good/superb revenue

growth. Under those conditions, expenditures have been known to rise. In contrast, federal

government expenditures became a larger portion of gross domestic product despite the "peace dividend". Since 1986, however, the ratio has been slowly declining.

In the final analysis, government has a major role in future economic growth and it extends beyond expenditures. The provision of a quality education through the public school system is crucial. Second, partnerships with businesses, of which the FCDA is an excellent example, can improve the quality and diversity of employment for Delaware's citizens. Third, in order for employers to be able to attract the workers needed to fill the jobs they are creating in the coming decades, a good quality of life must be maintained.